

Weather App (Angular + Ionic + Capacitor)

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Overview

This is a cross-platform weather application built with Angular, Ionic, and Capacitor, using the AccuWeather API to fetch real-time weather data.

Features

- 📍 Geolocation-based weather
- 🏠 City-based weather search
- ⌚ 12-hour forecast display
- 🌤️ 5-day forecast view
- 🌡️ Temperature unit toggle (Celsius/Fahrenheit)
- 🌃 Dark/Light mode toggle
- 📁 Offline caching with Capacitor Preferences

Architecture

1. `weather.service.ts`

Handles HTTP communication with the **AccuWeather API**.

Key API Endpoints:

- `/geoposition/search` – Location from coordinates
- `/cities/autocomplete` – City name suggestions
- `/currentconditions/v1/{locationKey}` – Current weather
- `/daily/1day/` – One day forecast
- `/daily/5day/` – Five day forecast
- `/hourly/12hour/` – 12-hour forecast

Example Methods:

- ``getLocationByCoordinates(lat, lon)``
- ``getLocationKey(cityName)``
- ``getCurrentConditions(locationKey)``
- ``getWeatherForecastFiveDays(locationKey)``

2. ``home.page.ts``

Main screen that displays weather data based on device geolocation.

Highlights:


- Auto-fetches weather on load
- Displays:
 - Temperature
 - Humidity
 - Wind Speed
 - 12-hour and 5-day forecasts
- Allows toggling temperature unit and dark mode
- Caches data locally for offline use

3. ``search-city-weather.page.ts``

Allows the user to search for a city and view weather information.

Highlights:

- Prompt for city name on load
- Fetches location key and weather data
- Renders forecast data with dynamic icon images
- Caches city name and forecast data

 Capacitor Preferences (Storage)

Used for offline support and saving preferences.

Keys Stored:

- `weatherData`
- `fiveDayForecast`
- `twelveHourForecast`
- `darkMode`
- `tempValue`
- `CityName`

UI and Interaction

- `ion-toggle` used for switching between light/dark mode and Celsius/Fahrenheit
- `ion-menu` provides a sidebar menu
- `ViewChild` + `Renderer2` used for rendering forecast divs with images dynamically

Tech Stack

- Angular (TypeScript, RxJS)
- Ionic Framework
- Capacitor (Geolocation, Preferences)
- AccuWeather API
- HTML/CSS for layout and styling

License

This project is for educational/demo purposes.

Contact

Built by [Your Name]. Feel free to reach out for improvements or contributions.